Listing of the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (previously presented) A microfluidic reactor comprising a plurality of reaction cells and a plurality of tapered fluid channels, wherein each of said tapered fluid channels is in fluid communication with a plurality of said reaction cells.
2. (previously presented) A microfluidic reactor according to claim 1, wherein the reactor comprises between 10 and 10,000 reaction cells.
3. (previously presented) A microfluidic reactor according to claim 2, wherein the reactor comprises between 100 and 10,000 reaction cells.
4. (previously presented) A microfluidic reactor according to claim 3, wherein the reactor comprises between 100 and 1,000 reaction cells.
5. (previously presented) A microfluidic reactor according to claim 1, wherein the reactor comprises between 1,000 and 10,000 reaction cells.
6. (canceled)
7. (canceled).
8. (original) A microfluidic reactor according to claim 1, wherein the reactor comprises a silicon microfluidic template.
9. (original) A microfluidic reactor according to claim 1, wherein the reactor comprises a plastic microfluidic template.
10. (original) A microfluidic reactor according to claim 1, wherein a distance between reaction cells which are adjacent to each other is 10 to 5,000 microns.

11. (original) A microfluidic reactor according to claim 1, wherein a distance between reaction cells which are adjacent to each other is 10 to 2,000 microns.

12. (original) A microfluidic reactor according to claim 1, wherein a distance between reaction cells which are adjacent to each other is 10 to 500 microns.

13. (original) A microfluidic reactor according to claim 1, wherein a distance between reaction cells which are adjacent to each other is 10 to 200 microns.

14. (canceled)

15. (original) A microfluidic reactor according to claim 1, wherein the reactor comprises a microfluidic template and at least one window plate.

16. (original) A microfluidic reactor according to claim 1, wherein the reactor further comprises at least one shadow mask.

17. (canceled)

18. (Previously presented) A microfluidic reactor according to claim 1, wherein the reactor further comprises an inlet channel and an outlet channel.

19. (canceled)

20. (original) A microfluidic reactor according to claim 1, wherein the reactor further comprises one common inlet channel, branch inlet channels, branch outlet channels, and one common outlet channel.

21. (Previously presented) A microfluidic reactor according to claim 1, wherein the reactor further comprises immobilized molecules in the reaction cells.

22. (original) A microfluidic reactor according to claim 21, wherein the immobilized molecules are biopolymers.

23. (original) A microfluidic reactor according to claim 21, wherein the immobilized molecules are immobilized with the use of linker molecules.

24. (original) A microfluidic reactor according to claim 21, wherein the immobilized molecules are selected from the group consisting of DNA, RNA, DNA oligonucleotides, RNA oligonucleotides, peptides, oligosaccharides, and phospholipids.

25. (original) A microfluidic reactor according to claim 21, wherein the immobilized molecules are oligonucleotides.

26. (canceled)

27. (Previously presented) A microfluidic reactor according to claim 1, wherein the reactor further comprises immobilized molecules in a double-layer configuration in the reaction cells.

28. (Previously presented) A microfluidic reactor according to claim 1, wherein the reactor further comprises a three-dimensional attachment of immobilized molecules in the reaction cells.

29. (Previously presented) A microfluidic reactor according to claim 1, further comprising porous films in the reaction cells.

30. (original) A microfluidic reactor according to claim 29, wherein the porous films are porous glass films or porous polymer films.

31-34. (canceled)

35. (Previously presented) A microfluidic reactor according to claim 1, wherein the fluid channels have a first cross sectional area, the reaction cells have a second cross sectional area which is smaller than the first cross sectional area, and the ratio between the first and second cross sectional areas is from 1:10 to 1:1000.

36-38. (canceled)

39. (Previously presented) A microfluidic reactor according to claim 1, wherein the tapered fluid channels provide uniform flow rates across reaction cells along a fluid channel.

40. (Previously presented) A microfluidic reactor according to claim 1, wherein the reaction channels contain beads.

41. (Previously presented) A microfluidic reactor according to claim 1, wherein the reaction channels contain resin pads.

42. (Previously presented) A microfluidic reactor according to claim 1, wherein the reactor comprises a microfluidic template, and a window plate attached to the template.

43. (Previously presented) A microfluidic reactor according to claim 42, wherein the reactor further comprises oligonucleotides in the reaction cells.

44-47. (canceled)

48. (original) A chip comprising a plurality of microfluidic reactors according to claim 1.

49-99. (canceled)

100. (previously presented) A microfluidic reactor comprising at least one microfluidic template and at least one window plate attached to the template, the microfluidic template and the window plate defining a plurality of reaction cells and a plurality of tapered fluid channels, wherein each fluid channel is in fluid communication with a plurality of said reaction cells.

101-105. (canceled).

106. (previously presented) A microfluidic reactor according to claim 100, wherein the reactor further comprises immobilized molecules in the reaction cells.

107-163. (canceled).

164. (previously presented) The microfluidic reactor according to claim 106, wherein said immobilized molecules are biopolymers.

165. (previously presented) The microfluidic reactor according to claim 106, wherein said immobilized molecules are immobilized with the use of linker molecules

166. (previously presented) The microfluidic reactor according to claim 106, wherein said immobilized molecules are selected from the group consisting of DNA, RNA, DNA oligonucleotides, RNA oligonucleotides, peptides, oligosaccharides and phospholipids.

167. (previously presented) The microfluidic reactor according to claim 167, wherein said immobilized molecules are oligonucleotides.

168. (previously presented) A chip comprising a plurality of microfluidic reactors according to claim 100.